The Hong Kong Polytechnic University

Subject Description Form

Please read the notes at the end of the table carefully before completing the form.

Subject Code	FSN2102
Subject Title	Human Physiology and Anatomy for Food and Nutrition II
Credit Value	3
Level	2
Pre-requisite	FSN2101 Human Physiology and Anatomy for Food and Nutrition I
Objectives	This subject aims to provide basic concepts of the anatomical structure, physiological mechanisms and function related to the body by using an organ system-based approach.
Intended Learning Outcomes *(Note 1)*	Upon completion of the subject, students will be able to: a) Recall and apply the knowledge obtained in Human Physiology and Anatomy for Food and Nutrition I (FSN2###) b) Understand the basic anatomical and physiological terminology the selected organ systems; c) Understand the function and inter-relatedness of the system studied; d) Discuss the importance of communication and homeostasis at different levels of body organization in health and nutrition; e) Obtain physiological and anatomical knowledge related to nutrition
Subject Synopsis/ Indicative Syllabus *(Note 2)*	**Endocrine System** Structure of endocrine system; endocrine glands; classification and function of hormones; mechanisms of hormone action; control of hormone secretion; pituitary, adrenal, thyroid glands and pancreas; autocrine and paracrine regulation; physiological link of nervous and endocrine systems **Reproductive System** Male and female reproductive physiology; endocrine regulation of reproduction; menstrual cycle; female sex cycle; menopause; puberty; fertilization and pregnancy

Nervous System
Function of neurons and synapses; electrical activity of neurons; introduction of membrane potential; grade potential and action potential; mechanism of neurotransmission; organization and function of central and peripheral nervous system and autonomic nervous system; sensory and motor cortex

Musculoskeletal System
Structure of bone, connective tissue and skeletal muscle; mechanism of muscle contraction; energy requirement of skeletal muscle; neural control of muscle contraction; growth and remodeling of bone; calcium homeostasis; effects of exercise, hormones, nutrition on bone and muscle development; effects of aging on musculoskeletal system

Immune System
Defense mechanisms; B and T lymphocytes; active and passive immunity; innate and adaptive immune responses; recognition of self and "non-self"

Teaching/Learning Methodology

(Note 3)

Lecture and tutorial will introduce the basic knowledge and terminology of anatomy and physiology to understand the structures, functions and relationship of different systems. Supplement information with in-class activities like discussion and multimedia learning resources will be used.

Laboratory sessions will use scientific approaches including data collection and interpretation to solve the anatomical and physiological problems. Students can apply and consolidate the knowledge gained from lectures and tutorials in this session.

Assessment Methods in Alignment with Intended Learning Outcomes

(Note 4)

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
		a	b	c	d	e
1. Tests	40 %	✓	✓	✓	✓	✓
2. Lab Reports	10 %	✓	✓	✓	✓	✓
3. Examination	50 %	✓	✓	✓	✓	✓
Total	100 %					

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Test
In-class quizzes/mid-term test will be used to access fundamental principles and facts of physiological knowledge.

	Lab Reports It is used to assess students' analytical skills and writing skills from reports by data collection from the lab session to let students apply and consolidate the knowledge gained during lectures. **Examination** It includes multiple choice questions and short questions to assess students' ability to comprehend and apply the knowledge to the covered systems.	
Student Study Effort Expected	Class contact:	
	▪ Lectures/Tutorials	37 Hrs.
	▪ Laboratory	6 Hrs.
	Other student study effort:	
	▪ Self-study	40 Hrs.
	▪ Preparation for assessment and assignments	48 Hrs.
	Total student study effort	131 Hrs.
Reading List and References	Human Physiology (2019) 15th Ed. Fox SI. Publisher: McGraw Hill. Martini FH, Nath JL and Bartholomew EF. (2017). Fundamentals of Anatomy and Physiology (11th ed.). Pearson, ISBN 10: 0134396022. Vander's Human Physiology: The Mechanisms of Body Function (2010) 12th Ed. Widmaier EP, Raff H & Strang KT. Publisher: McGrawHill.	

Note 1: Intended Learning Outcomes
Intended learning outcomes should state what students should be able to do or attain upon subject completion. Subject outcomes are expected to contribute to the attainment of the overall programme outcomes.

Note 2: Subject Synopsis/Indicative Syllabus
The syllabus should adequately address the intended learning outcomes. At the same time, overcrowding of the syllabus should be avoided.

Note 3: Teaching/Learning Methodology
This section should include a brief description of the teaching and learning methods to be employed to facilitate learning, and a justification of how the methods are aligned with the intended learning outcomes of the subject.

Note 4: Assessment Method
This section should include the assessment method(s) to be used and its relative weighting, and indicate which of the subject intended learning outcomes that each method is intended to assess. It should also provide a brief explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes.